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Attorney's Docket No.: 13806-002001

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Andrew W. McClaine et al.      Art Unit : Unknown  
Serial No. : 10/044,813      Examiner : Unknown  
Filed : January 11, 2002  
Title : STORAGE, GENERATION, AND USE OF HYDROGEN

Commissioner for Patents  
Washington, D.C. 20231

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Copies of the references listed on the attached form PTO-1449 are enclosed. A copy of a communication from a foreign patent office in a counterpart application is also enclosed.

This statement is being filed within three months of the filing date of the application or before the receipt of a first Office action on the merits. Please apply any charges or credits to Deposit Account No. 06-1050, reference 13806-002001.

Respectfully submitted,

Date: \_\_\_\_\_

2/14/3

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CERTIFICATE OF MAILING BY FIRST CLASS MAIL

I hereby certify under 37 CFR §1.8(a) that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage on the date indicated below and is addressed to the Commissioner for Patents, Washington, D.C. 20231.

February 14, 2003

Date of Deposit

Signature

Lesley J. Arcidy

Typed or Printed Name of Person Signing Certificate

Substitute Form PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 13806-002001	Application No. 10/044,813
<b>Information Disclosure Statement by Applicant</b> (Use several sheets if necessary) (37 CFR §1.98(b))		Applicant Andrew W. McClaine et al.	
		Filing Date January 11, 2002	Group Art Unit

### U.S. Patent Documents

Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	AA						
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						

### Foreign Patent Documents or Published Foreign Patent Applications

Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	AL	WO 00/75744 A2	14/12/2000	PCT	G06F			
	AM	0 966 145 A8	22/12/1999	EPO	H04 M			
	AN	WO 99/14931	25/03/1999	PCT	H04 M			
	AO							
	AP							

### Other Documents (include Author, Title, Date, and Place of Publication)

Examiner Initial	Desig. ID	Document
	AQ	Loa et al., "Enhanced H/323 Gateway With IVR Agent And H.323 Gatekeeper", Motorola, Inc., September, 1999, pp. 120-123
	AR	
	AS	
	AT	

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To: FEIGENBAUM, DAVID L.  
FISH & RICHARDSON, P.C.  
225 FRANKLIN STREET  
BOSTON, MASSACHUSETTS 02110-2804

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**PCT**

WRITTEN OPINION

(PCT Rule 66)

JAN 31 2003

FISH & RICHARDSON, P.C.  
BOSTON OFFICE

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FEB 5 2003

DAVID L. FEIGENBAUM

Date of Mailing  
(day/month/year)

**28 JAN 2003**

Applicant's or agent's file reference

13806-002WO1

REPLY DUE

within TWO months  
from the above date of mailing

International application No.

PCT/US02/00923

International filing date (day/month/year)

11 JANUARY 2002

Priority date (day/month/year)

12 JANUARY 2001

International Patent Classification (IPC) or both national classification and IPC  
Please See Supplemental Sheet.

Applicant

SAFE HYDROGEN, LLC

1. This written opinion is the first (first, etc.) drawn by this International Preliminary Examining Authority.

2. This opinion contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step or industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Due Date: 3-28-03  
Deadline: Rja  
Initials: Rja

**Docketed By Practice Systems**

Replied Opinion 3/28/03

Initials: CR  
Record: CR

3. The applicant is hereby invited to reply to this opinion.

**When?** See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(d).

**How?** By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

**Also** For an additional opportunity to submit amendments, see Rule 66.4.  
For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4 bis.  
For an informal communication with the examiner, see Rule 66.6.

**If no reply is filed**, the international preliminary examination report will be established on the basis of this opinion.

4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: 12 MAY 2003

Name and mailing address of the IPEA/US

Commissioner of Patents and Trademarks  
Box PCT  
Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

JOSEPH D. ANTHONY

Telephone No. (703) 308-0651

WRITTEN OPINION

International application No.

PCT/US02/00923

I. Basis of the opinion

1. With regard to the elements of the international application:\*

☒ the international application as originally filed

☒ the description:

pages 1-17, as originally filed  
pages NONE, filed with the demand  
pages NONE, filed with the letter of

☒ the claims:

pages 18-26, as originally filed  
pages NONE, as amended (together with any statement) under Article 19  
pages NONE, filed with the demand  
pages NONE, filed with the letter of

☒ the drawings:

pages 1-6, as originally filed  
pages NONE, filed with the demand  
pages NONE, filed with the letter of

☒ the sequence listing part of the description:

pages NONE, as originally filed  
pages NONE, filed with the demand  
pages NONE, filed with the letter of

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).  
☐ the language of publication of the international application (under Rule 48.3(b)).  
☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the written opinion was drawn on the basis of the sequence listing:

- ☐ contained in the international application in printed form.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority in written form.  
☐ furnished subsequently to this Authority in computer readable form.  
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.  
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☒ The amendments have resulted in the cancellation of:

- ☒ the description, pages NONE  
☒ the claims, Nos. NONE  
☒ the drawings, sheets/fig NONE

5. ☐ This opinion has been drawn as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed".

WRITTEN OPINION

International application No.

PCT/US02/00923

**V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. statement**

Novelty (N)	Claims	(Please See supplemental sheet)	YES
	Claims	(Please See supplemental sheet)	NO
Inventive Step (IS)	Claims	(Please See supplemental sheet)	YES
	Claims	(Please See supplemental sheet)	NO
Industrial Applicability (IA)	Claims	(Please See supplemental sheet)	YES
	Claims	(Please See supplemental sheet)	NO

**2. citations and explanations**

Claims 1, 5, and 11-16 lack novelty under PCT Article 33(2) as being anticipated by UENO et al. U.S. Patent Number 5,468,880 or CREGER et al. U.S. Patent Number 3,759,986.

Ueno et al teaches method of production of alpha-beta-unsaturated ketones. Applicant's claims are deemed to be anticipated over examples 11-13 wherein sodium hydride is dispersed in a carrier solvent with a phosphonate type dispersant.

Creger et al teaches esters of 2,2-dimethyl-5-(aryloxy)-1- pentanols. Applicant's claims are deemed to be anticipated over the Example in column 9, lines 4-41 wherein sodium hydride is dispersed in a mineral oil carrier with a diisoprpyolamine dispersant.

Claim 23 lacks novelty under PCT Article 33(2) as being anticipated by MACKENZIE et al. U.S. Patent Number 3,674,702.

MacKenzie et al teaches hydrogen gas generating composition and method for the same. Applicant's claim is deemed to be anticipated over column 3, lines 1-30 wherein a very high concentration of lithium hydride is admixed with a hydrocarbon solvent consisting of hexane, cyclohexane or petroleum ether.

Claims 24-33, 36-37, and 39-41 lack novelty under PCT Article 33(2) as being anticipated by or in the alternative as lacking an Inventive Step under PCT Article 33(3) over KLANCHAR et al. U.S. Patent Number 5,867,978 or ERICKSON U.S. Patent Number 3,975,913 or BAILEY, JR. et al. U.S. Patent Number 4,261,955.

Klanchar et al., Erickson, and Bailey, Jr. et al. individually teach systems for the generating of hydrogen gas from metal hydrides such as lithium hydride, magnesium hydride or sodium hydride. The taught systems, as set forth in the individual figures of each patent, are deemed to anticipated applicant's claims invention. In the alternative, if some of applicant's specifically claimed apparatus parameters are not directly taught (i.e. by way of a specific figure) than applicant's claimed invention is deemed to be obvious over (Continued on Supplemental Sheet.)

WRITTEN OPINION

International application No.

PCT/US02/00923

**Supplemental Box**

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: Boxes I - VIII

Sheet 10

**TIME LIMIT:**

The time limit set for response to a Written Opinion may not be extended. 37 CFR 1.484(d). Any response received after the expiration of the time limit set in the Written Opinion will not be considered in preparing the International Preliminary Examination Report.

**CLASSIFICATION:**

The International Patent Classification (IPC) and/or the National classification are as listed below:  
IPC(7): C01B 3/08, 6/04, 6/24; B01J 7/00 and US Cl.: 252/188.25, 182.32; 423/657, 646; 422/239; 48/4, 61

**V. 1. REASONED STATEMENTS:**

The opinion as to Novelty was positive (YES) with respect to claims 2-4, 6-10, 17-22, 34-35, 38, 42-63.

The opinion as to Novelty was negative (NO) with respect to claims 1, 5, 11-16, 23-33, 36-37, 39-41.

The opinion as to Inventive Step was positive (YES) with respect to claims 2-4, 6-10, 17-22, 34-35, 38, 42-63.

The opinion as to Inventive Step was negative (NO) with respect to claims 1, 5, 11-16, 23-33, 36-37, 39-41.

The opinion as to Industrial Applicability was positive (YES) with respect to claims 1-63.

The opinion as to Industrial Applicability was negative (NO) with respect to claims NONE.

**V. 2. REASONED STATEMENTS - CITATIONS AND EXPLANATIONS (Continued):**

each said patent since the broad disclosure of each patent is deemed to encompass all of applicant's specifically apparatus parameters.

Claims 2-4, 6-10, 17-22, 34-35, 38, and 42-63 meet the criteria set out in PCT Article 33(2)-(4), because the prior art does not teach or fairly suggest the claimed invention.

Claims 1, 5, 11-16, 23-33, 36-37, and 39-41 meet the criteria set out in PCT Article 33(4), because the claimed compositions are deemed to be useful to generate hydrogen gas.

----- NEW CITATIONS -----

NONE